

THE ECONOMIC CHALLENGES OF THE EUROPEAN UNION.

HOW WILL THE AUTONOMOUS COMMUNITIES BE AFFECTED
BY THE NEW FISCAL INTEGRATION?

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1. Introduction: catalonia, the next state in europe?

When we look into it, with a necessary perspective, the world seems to be some time immersed in a dynamic that combines two probably complementary forces. On the one hand, since 1945 more than 120 new independent countries have been created, most of which are smaller than Catalonia in number of inhabitants. On the other hand, it is also obvious that the power of the states has declined considerably. Transnational companies, borderless financial markets and supranational organizations determine and very often even determine the scope of the regulatory power of governments in independent countries. The globalization processes, almost by definition, tend to blur the boundaries' effects. We have to add the fact that many states have been giving an important part of their political sovereignty in certain areas to supranational organizations. Europe is the true specialist in political integration processes of that kind. Even monetary policy, an area traditionally reserved for sovereign states, is currently shared at European level by a number of countries.

History shows us, therefore, that *statu quo* is not an immutable being. Neither borders nor its effects are sacred. Borders have been created continuously over the last seventy years. At the same time, however, have lost much of their relevance, in world increasingly interconnected and globalized.¹

Some years ago two Italian economists, Alberto Alesina and Enrico Spolaore, published a highly recommended book in which they explained the reasons for the growing number of independent states over the world.² The plot's book revolves around the dilemma between the benefits of a higher dimension of countries (access to wider markets, economies of scale in providing public services, etc.) and the cost result from the state public policy uniformity in front of social groups with heterogeneous preferences and how that affect to integration and disintegration policy processes.

According to the book, the three forces responsible for the growing number of independent states in the world are:

(1) About the relevance of the regulatory functions of nation states, even in a period of increasingly economic globalization as the current, it is interesting to consult a recent article by the Harvard Professor Dani Rodrik (Rodrik, 2012)

(2) Alesina i Spolaore (2003). Although the book has been translated into catalan, the poor quality of the catalan version is, in my opinion, of little interest.

a) the economic globalization process and the increasing trading opening of the countries;³ b) the reduction of the armed conflicts as a form of resolution of the international disputes; and c) the generalization of democratic systems as a form political organization. From that point of view, we may not be surprised of the appearance of powerful independence movements in the humble of some European countries. After all, Europe is a deeply democratic society, economically open and one of the places in the world where mankind has made major progress in resolving political conflicts by peaceful means. Are we about to see the emergence of new states in Europe?

We can not know for sure, but it seems obvious that, on a greater or lesser extent, in some European nations such as Catalonia, Scotland, the Basque Country or Flandes, a source of political independence movements are being articulated.

The independence of a country (Catalonia, for instance) is a political nature project that to be properly evaluated has to be done with political criteria. From that point of view, what only matters is that a sufficient majority of Catalans decide in a democratic way, whether or not is preferable to build a new state or continue being part of the Spanish political project. However, it wouldn't be reasonable avoiding the analysis of the economic implications that would have a project of such importance for the future of the Catalan people. The document you have in your hands aims to show a series of reflections on the complex consequences that the independence of Catalonia could have. The bulk of the analysis will focus on aspects of commercial nature, although these won't be the only ones to be discussed. Tax issues will be here left aside.

The transition to the independence of a country is a complex process full of uncertainties at all levels. Analyze the economic consequences in all its complexity would exceed the space available in this document. For that reason, in the most prospective part of this article, there are two work cases, the degree of realism could be discussed, but they will be used to clarify the economic consequences of the secession. First, we assume that the independence would be the result of a democratic, peaceful and negotiated process between the Catalan and Spanish governments with the participation of international mediators. Second, we assume

(3) The economic globalization allows the countries to be less dependent of the internal market and therefore, favors the potential independence processes. A less optimistic view of the current processes of globalization and the existing risk from the commercial point of view of a process of secession in Catalunya can be found in Ghemawat (2011, p.220-222) .

that the Catalans would remain members of the European Union, as an interpretation of the will of the majority. So that, the economic consequences of an armed conflict, public order issues or the not belonging of Catalonia to the European Union or to the Euro zone, won't be considered⁴.

The remainder of this paper is organized as follows. Section 2 presents a series of brief reflections on the relationship between the size of the states and their economic prosperity. Section 3 describes a general view on the situation of the trade relations between Catalonia and Spain and the rest of the world. Section 4 explores some possible consequences, in commercial affairs, of a process that would lead Catalonia to the declaration of an independent state. Section 5 gives some additional considerations regarding the financial relations between the Catalan economy and the outside. Finally, a section of conclusions, finishes the paper.

2. Size of the states and economic prosperity

If Catalonia were an independent state is obvious that the Catalans would be part of a much smaller state than Spain today. Is that so important regarding to the economic prosperity of the country? The purpose of this section is to briefly introduce what the economic science says about that issue, according to the main theoretical arguments and the empirical evidence available. Before getting down to business, it would be useful to comment something that usually goes unnoticed in international economical analysis: five of the eight most competitive countries in the world according to the most recent classification of the World Economic Forum⁵ (Switzerland, Singapore, Sweden, Finland and Denmark) have a population between five and ten millions inhabitants, so they are, in terms of population, more or less as Catalonia. So it seems, that initially, a relative small-size country is not necessarily less competitive.

From a theoretical point of view the dimension of a country provides some benefits, but also causes costs to be considered⁶. A bigger size presents benefits if the provision in public services is made with economies of scale. At

(4) A deeper analysis on these cases can be found on Guinjoan and Cuadras Morató (2011, p.30-35)

(5) More details : <http://www.weforum.org>

(6) The debate in this section over the theoretical arguments and the empirical evidence, is based in the work by Alesina, Spolaore and Wacziarg (2005).

the same time, the bigger countries have bigger internal markets, although the economic globalization has permitted to the companies from small countries a better access to the world markets, so that, be part of a small-size economy is no longer as important as it was when political boundaries were also barriers to trade. When it comes to the costs, the most important result from the difficulty that some governmental policies, which are largely uniform, can satisfy the preferences of a heterogeneous population of a great country.

Regarding the empirical evidence, the general conclusion on macroeconomics is that the dimension of a country is not a very relevant factor for the economic growth, neither in the studies of temporal series nor on transverse samples of different countries. Other factors related to the economic policy and the quality on the social institutions are, generally, much more important. The most recent research about the effects of the scale on growth reveals that a larger scale can be reached through a larger dimension on the internal market or a greater trade openness. In fact, we can establish an empirical relation of replacement between one and the other. So that, in general the impact of the size of a growing country tends to be less important for the most open countries and, at the same time, the impact of the trade liberalization in the growing process, is lower with the increasing size of the countries. In short, it seems that the size of a country could have economic advantages and disadvantages but when evaluating, these are largely offset.

3. The foreign catalan trade: spain and the rest of the world

Despite the increasing internationalization of the Catalan economy, there is no doubt that the Spanish market is still the key for many companies in the country. Therefore, it is completely normal that many Catalans ask if the independence of Catalonia, which could damage that such important relationship, would cause undesirable costs from the economic point of view. In fact, this is one of the main arguments put forward by those opposed to the secession for economic reasons. It is convenient so, begin the analysis of the economic impact of the independence of Catalonia depicting the foreign Catalan trade and its evolution over the time. This part of the report will focus on the Catalan exports, distinguishing between those which have Spain as a final market and those which are sent to the rest of the

world (ROW). Catalonia, a commercially open country, has a significant volume of imports related to its GDP, but it is worth mentioning that, in principle, a secession process should not alter so much the access to the import markets, so that, the analysis of these seems less important.

The destination of Catalan exports

Where does the added value generated by the Catalan economy go? The answer to this question can be found in the Table #1 and let us know the degree of dependance on foreign markets of the economic activity that takes place in Catalonia. The calculation is not so obvious as it might seem, and it can only be done for years when the input-output tables on the Catalan economy are published. (see footnote #7)

Table #1 Destination of the added value generated in Catalonia (% of the amount)

	Catalan Market	Spanish Market	Rest of the world
2005	59,4	22,5 (55,4)	18,1 (44,6)
2001	58,8	24,1 (58,5)	17,1 (41,5)
1987	60	30,3 (75,8)	9,7 (24,2)

Note: The data in brackets shows the percentage of the exported added value that goes to each of two foreign markets considered.

Source: Personal compilation from the input-output tables on Catalonia 2005 (www.idescat.cat/cat/economia/tioc) and Oliver and Alonso (2007)

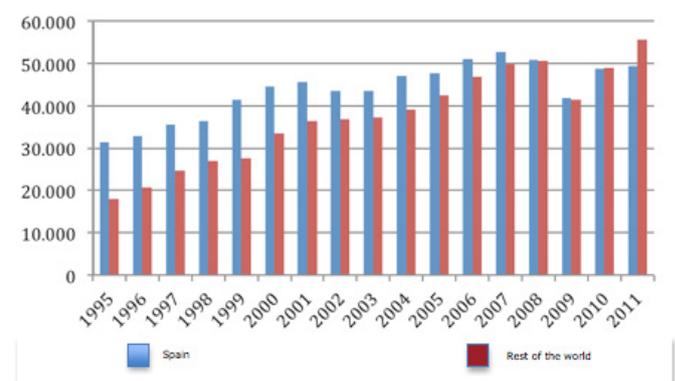
The analysis of the data on Table #1 gives some clear conclusions. First, the percentage of the added value that goes to the internal market is around the 60%⁷ during the

(7) This number could seem so high because so often it has been stated that the importance of the Catalan, Spanish and the ROW markets were roughly the same during the first years in the XXI century. This statement comes from the data extracted from C-interreg (www.c-interreg.es). For example, the most recent numbers proceeding from this source, corresponding to 2011, give 26,7%, 34,5% and 38,8% to the Catalan, Spanish and ROW markets, respectively. This data is only referring to goods (excluding services), and measure the total production (or the number of sales) sent to every market. Total production and added value are not the same, for a very easy reason: the products that Catalonia is selling to the different markets (cars, for instance) include a part of added value generated by Catalan companies as well as another part generated by companies outside Catalonia, in the way that to produce these cars, the Catalan companies have to import from the outside all types of raw materials and components. The calculation of the added value exported by destination (Table #1) requires the calculation of the sales of the products sent to each market and subtract the value of imports that have been needed to product them.

period 1987-2005, so the exports represent the 40% remaining. Second, something has changed in the relative importance of export markets. If in 1987 the Spanish market involved more than three quarters of the amount on the added value exported, this number has decreased more than twenty percent during the period. The incorporation to the European Economic Community, the European Union today, in 1986 and the world economic globalization processes have benefit the diversification of the external markets of the Catalan companies, to the detriment of the relative importance of the Spanish market, but, nevertheless, it is still having a great significance.

Graphics #1 and #2, which content information about the value on the Catalan exports of goods during the period 1995-2011 and how are they distributed through the Spanish market and the ROW, clearly confirm the trend that points table #1. The ROW exports have increased at a higher rate than 7% (in nominal words) while the Spanish exports have only increased in a 3%. As a result, the Spanish exports have lost importance, and in fact, their volume was practically the same as for the ROW exports during the 2008-10 period. In 2011, and it seems that the trend of the beginning of 2012 confirms this impression, the energy of the exports to the ROW contrasts with the stagnation on the Spanish sales, so that the result is that for the first time Catalonia clearly exports more to the ROW (52,9%) than to Spain (47,1%), when in the starting point (1995) it was 36,5% and 63,5%, respectively⁸.

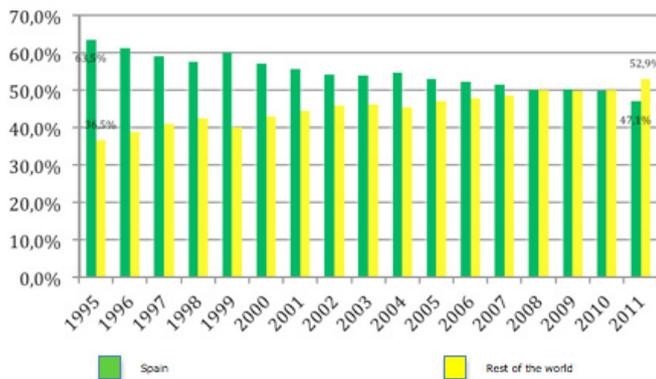
Graphic #1. Catalan exports (million of euros)



Source: C-interreg and Datacomex

(8) These data, coming from C-interreg and Datacomex (<http://datacomex.comercio.es>), just include the export of goods, excluding the service exchange.

Graphic #2. Catalan exports to the ROW (% of the amount)



Source: C-intereg and Datacomex

According to the C-intereg data, Catalonia is, together with the Balearic Islands⁹, Galicia and the Community of Madrid, the only territory in Spain where ROW exports are higher than those sent to the rest of Spain.

Table #2 presents, for 2011, the volume of ROW exports in absolute terms, a representative index of the same magnitude per inhabitant and the percentage that represent the six Spanish regions with more export volume (in absolute value) to world markets.

Table #2. Exports to ROW (2011)

REGION	EXPORTS VOLUM TO THE ROW (MILIONS OF €)	PERCENTAGE OF TOTAL EXPORTS	EXPORTS TO THE ROW PER INHABITANT (SPAIN, VALUE 100)
CATALONIA	55.525	52,9	164
MADRID	24.549	54,4	83
ANDALUSIA	22.851	43,8	60
BASQUE COUNTRY	21.067	46,0	214
VALENCIAN COUNTRY	20.013	45,1	86
GALICIA	17.532	54,1	139
REST OF THE STATE	51.950	37,0	78
SPAIN	213.487	45,9	100

Source: C-intereg, Datacomex, INE and personal compilation.

(9) Nevertheless, it worth saying that the goods exports of the Balearic Islands are short in absolute numbers, as corresponding to a region with a productive source focused in the tourism.

Catalonia in the Spain context, is a very export region (the most export in absolute volume), it has a very important export percentage compared to the state average and its volume of exports to the rest of the world per inhabitant is of 64% more than the average, although is still far from the most dynamic region according to this point of view, the Basque country (which has an export volume to the rest of the world of 114% more than the average).

To conclude, Table #3 presents a comparative on the export sections for four nations without state where have recently expressed in some way, the need for a secession process¹⁰. The Catalan economy is the one which presents more export intensity (measured as total exports as a GDP percentage). Of total exports, nearly half are sent to international markets, a proportion increased in recent years, as said before. This proportion is more that in the Basque Country or Scotland. Quebec, probably due to its proximity to the united States large market, is sending a higher percentage of its exports to international markets.

Table #3 . Exports, in comparison (2005)

	Exports / GDP	ROW EXP/ TOTAL EXP
CATALONIA	65,9	46,1
BASQUE COUNTRY	62,4	37,2
SCOTLAND	53,1	34,7
QUEBEC	55,0	63,1

Source: Idescat, Eustat, (www.eustat.es), C-intereg, Scottish government (www.scotland.gov.uk/topics/statistics), Institute de la Statistique-Québec (www.stat.gouv.qc.ca/)

In summary, the export sector is a key sector for the Catalan economy and everything suggests that it will continue in coming years. recently the destination markets for the Catalan export have diversified, so the relative importance of the Spanish market has significantly reduced. However, Spain is still by far the biggest costumer for the Catalan companies.

The relationship between trade surplus and the fiscal deficit with Spain.

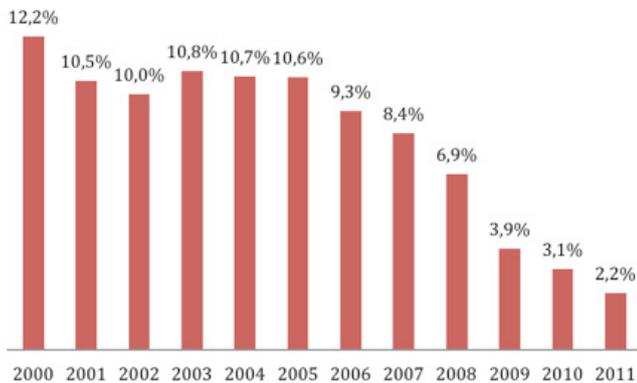
Catalonia sells to Spain more than it buys, therefore, the Catalan economy has a trade surplus with regard to the Spanish economy. (Graphic #3). Although it is part of an overcome issue, is still normal to listen to arguments connecting this positive trade result with the other macroeconomics scale that depicts the relationship between

(10) To make the comparative 2005 was chosen because is the last year when the input-output Table on the Catalan economy was published.

both economies: the fiscal deficit. The Catalan fiscal deficit implies a transfer of resources from the Catalan economy to the rest of the state due to the public sector fiscal activity in Catalonia (tax collection, service render, infrastructure construction, transfers to other administrations, etc...). The Catalan fiscal deficit is persistent and of a very considerable magnitude. In particular, an 8% of the GDP is estimated on average for the period 1986-2009¹¹. Despite the damage that this transfer is causing to the Catalan economy, some people still believe that the fiscal deficit and the trade surplus cancel each other out, so that, a thing for another, and consequently, Catalonia does not lose out.

Graphic #3 Trade balance with Spain, 2000-11 (GDP %)

Source: Idescat



Nevertheless, if we consider it carefully, is clear that this argument makes no sense, because the economic relationships that determine the balance on the fiscal and trade balances are completely different. The trade balance is generated by the commercial transactions, mutually beneficial, that imply a voluntary exchange between economic agents residing in different regions. So, the trade implies voluntarism and benefits for all involved. Instead, the fiscal deficit is generated by political decisions that establish compulsory transfers of resources by the residents from a specific region, because of the financial activity of the central public service in the state.

Nowadays, with a fully liberalized trade regime that assures the access to the Spanish markets to companies and products from over the world, competitiveness is the only foundation of the trade surplus of Catalonia. It makes no sense to consider that having a determined fiscal deficit is a kind of a warranty of access to the Spanish market for

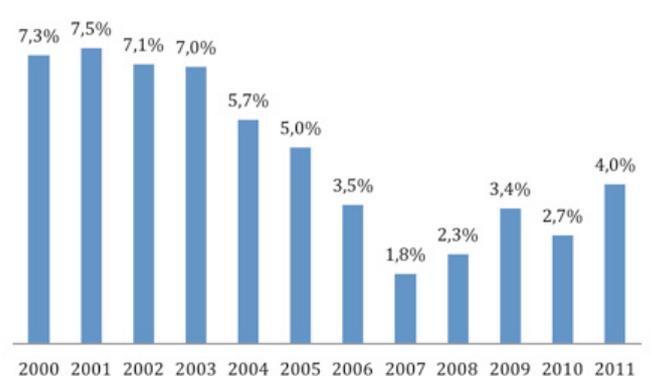
(11) The details of these calculations can be consulted in Generalitat de Catalunya (2012)

Catalan companies, even in the case that these were not competitive enough.

Therefore, competitiveness in Catalan companies is not something we can take for granted. If the transfer of resources, that means the fiscal deficit, affects not only the citizen incomes, but also involves actions in the public sector that are essential factors of competitiveness (building and infrastructure maintenance, educational and university system or research and innovation programs, for instance). If that happens, it is probably the time to analyze in which way the fiscal deficit is representing a burden for the Catalan economy. Indicators such as the evolution of the trade balance (Graphic #4), clearly decreasing during 2000-11 years, should represent a wake-up call.

Graphic #4 . Trade balance of the Catalan economy. (GDP%)

Source: Idescat



4. Some possible commercial consequences of secession

Feasibility of secession in a global economy

One of the structural features on the Catalan economy that can generate more doubts on the feasibility of the independence of Catalonia is the concentration of its exports to the Spanish market, that as we have already seen, are almost half of the exports for the Catalan companies. It is true that the importance of the Spanish market has been declining during the past twenty-five years, but this can not conceal the fact that, in the present circumstances, the excessive commercial reliance on Spain would be a potential risk factor for an Independent Catalonia.

However, in a context of trade liberalization as the current, this is a relatively risk, due to the commercial relationships established between companies and consumers from different countries. The fact that companies export their products (to the Spanish market or somewhere else) is motivated by the fact that they are competitive and they offer good products (in quality and service) with better prices than the rival companies. Anything other than that is the foundation for their commercial success. It is almost inconceivable that a Catalan company hopes to export to the Spanish market if its products are lower in quality than the rival's, that today includes companies from all over the world. Businessmen know more than anyone that the success of their projects begin in their competitiveness, a part from the owner or the worker's nationality. From that point of view, an Independent Catalonia should not have more difficulties to export to Spain than those it may arise from hypothetical limitations of Spanish political powers (and European) on the Catalan products. Needless to say that within the framework of the EU, and above all, if Catalonia was a member state as we have supposed, it is not foreseeable that these limitations would have any importance.

These general considerations on trade should be analyzed in the context of general discussion on how some economical phenomenon such as the globalization and economic integration of some countries (trade, monetary, fiscal, etc...), some other political processes such as integration and disintegration processes (the latter in the form of new states creation). The main contribution on this subject is the already quoted book by Alesina and Spalaore (2003)

When the trade is little liberalized and countries establish protective measures, there is no doubt that being part of a big-size country is an advantage for companies, in terms of access to bigger markets. Yet, when markets are liberalized and integrated, this advantage becomes irrelevant because the target market for the companies turns into the most part of the world. In Thomas L. Friedman words (Friedman, 2006), the world is flat and the borders are all but irrelevant seen from trade interests. According to this argument, globalization progressively reduces the costs of secession for those regions that are part of larger countries.

The commercial effect of a border

Is really true that the world is flat and borders are meaningless for trade? Not exactly. The globalization and economical integration processes are far from being complete¹² and borders seems to still have a great impact in trade

(12) Ghemawat (2011) is an interesting reference on the discussion about the scope of the economical globalization processes.

patterns between regions, even in those cases where there are not official restrictions to sell and buy to other countries. Economists talk about the "Border effect" when referring to the trade phenomena of most intense trade between regions within the same state than trade with regions from other states. This phenomena was first noticed by McCallum (1995) after observing that trade between Canada provinces was more intense than that with USA states¹³. Some reports quantify the border effect for the Catalan case and confirm that, indeed, Catalonia is trading more with the Spanish regions than with other regions outside Spain even with UE regions¹⁴.

The existence of administrative obstacles and tariff barriers in the international trade, the cultural and linguistics differences or the use of different currencies are factors that can explain the border effect, but the surprising thing is that this phenomena also happens between regions without any trade restrictions or regions that even share the language (the most part of Canada and USA) or currency (within the European Union). What is more, some reports show the existence of a border effect caused by administrative divisions (USA states, Canada provinces, Spanish regions, etc...) within the same state. All of this has turned the border effect into a little understood phenomena for the economists, largely incompatible with the prevailing economic theory in the profession¹⁵, and so that, resulted in a remarkably volume of research willing to measure and explain the causes.

The initial studies by McCallum (1995) and Helliwell (1996) stated the existence of border effects of a considerable magnitude (2.200% in the Canada provinces). Such a magnitude numbers were paradoxical according to the economic theory and a bunch of later reports tried to show that were overestimated numbers caused by technical issues, such as the procedure of measuring the distance between regions, the omission of relevant variables in the estimated econometrics process, the exclusion of the productive agglomeration effects or the miss-considering

(13) This result is given by the estimation of an econometrics model where the trade between to regions depends on each one GDP and on the distance between each other. Therefore, the border effect would explain why Quebec is trading more with British Columbia than with New York or Massachusetts, although they are richer and closer regions.

(14) Specific references can be found at Guinjoan and Cuadras Morató (2001, p.193)

(15) Because of this, Obstfeld and Rogoff (2001) declared it as one of the main puzzles in the international macroeconomics theory.

of the no linear effects on the trade¹⁶. According to that view, nowadays the consensus tends to state that if the border effect exists, nationally or internationally, its magnitude is much more moderate than it was initially established¹⁷.

Which causes could then be behind the border effect? It is clear that borders, international or not, are not causing themselves any reduction of trade. This can be caused by any other factors related with the existence of these borders, such as protectionist policies on both sides of the borders, the cultural and language differences, the consumers preferences, the use of different currencies, the inner trade orientation of the transport and communication infrastructures, the different regulatory systems (consumer protection, environmental standards, etc...) and the legal system in general, the existence of corporate, associative and familiar networks, or the unequal distribution of information at international level, among many other.

The establishment of a political border between Catalonia and Spain would probably reduce the trade between each other in the way that the independence of Catalonia could alter some of the factors of the border effect. In the case that Euro would continue being the Catalan currency and languages wouldn't be any inconvenient, the trade level between the two countries should be the same; whereas, if we suppose that the new State would reinforce those infrastructures that connect Catalonia to Europe and the Spanish (Catalan) consumer preferences would tend to discriminate against the Catalan (Spanish) products due to political reasons, it is probably that the new border would have a not negligible effect in the trade volume between the two countries. In fact, this last factor is one of the most worrying in relation to the possibility of a secession process in Catalonia. The next subsection analyzes it in detail.

Politics and trade: The economic consequences of a boycott to Catalan products.

Although the considerations done in the previous subsection on the economic nature of the trade relations, it is important to recognize that trade usually also has an ideological, political even affective dimension. So, it makes perfect sense to analyze the possibility of a boycott to Catalan products that the Independence of Catalonia could trigger in the Spanish market. It is not a remote possibility, as became clear in 2005, when during the negotiation of

(16) The references to the most important studies can be found in Guinjoan and Cuadras Morató (2011, p.193-194)

(17) Some recent studies (Dias, 2011, for Canada and Llano-Verduras, Minondo i Requena-Silvestre, 2011 for Spain) question the existence of the border effect.

the new Catalan Statute of Autonomy, there were calls in this way from different forums of public opinion. The study by Guinjoan and Cuadras Morató (2011) does a comprehensive review on the issue of trade boycotts focused in countries, from both the conceptual point of view as the case studies. The book focuses on the evaluation of the impact that a commercial boycott by some Spanish sectors would have on the Catalan economy and Catalan companies. It is also discussed in the book the theories that describe under which circumstances – usually political – boycotts can be done, directly affecting the sales of a company from a determined country. Thus, the “Animosity Model” used by the marketing theorists to analyze the boycotts against some countries, due to political issues or some others, is there described – with some specific cases explained -. Many of the arguments contained in this section of the document are based on the content of the aforementioned work.

The evaluation of the economic impact of the boycott comes from the fact that, this would affect to the economic dimension and would involve the modification of exchange flows between Catalonia and Spain. In General, there are two effects that a boycott on the Catalan products would cause in the bilateral trade. First, it seems clear that Catalan companies would be restricted their exportation to the Spanish market. Second, It may cause a reactive boycott made by Catalan people against the Spanish products that would substitute the Spanish imports. In fact, there are not enough evidences for thinking that, in front of a political conflict like this, Catalan people would not have identical social reactions as the Spanish. Therefore, the more reasonable working hypothesis is that the boycott would be symmetric.

Essentially, the book compares two situations of the Catalan economy in 2005. First, the “real” Catalan economy, as it is described in the official statistics and, specifically in the input-output table; second, a “simulated” Catalan economy that would consider the economical effects resulting from changes by a hypothetical Independence. These changes, as described before, are focused in two main aspects. The reduction in Catalan exports to Spain contributes to a reduction in production, the added value and the employment of the Catalan economy; on the other hand, the substitution of Spanish imports would be a contribution to the opposite on economic variables added to the Catalan economy.

The Catalan 2005¹⁸ input-output table published by Idescat is the main statistic source used, and the theore-

(18) The 2005 table is the last Catalan input-output table published by Idescat. Predictions show that the next one would be the 2011 table, but is still being edited in the moment of the writing of this document.

tical basis for the simulation is the input-output analysis¹⁹. The input-output table could be described, according to an accounting point of view, as a systematic method of collecting and presenting statistic material and grouping the economical activities in different branches, quantifying the transactions between companies in different branches (called “intermediate inputs”), the production to final uses of each branch (household and administrations consumption, investments in capital assets done by companies and exports) and the use of each branch of the “primary outputs” (work and capital). In other words, the input-output table shows a detailed information of the final destination of each branch production – that can be as intermediate inputs used by other branches or as final uses – and the origin of inputs used by each branch in their production processes (intermediate inputs from other branches production and primary inputs, basically work and capital).

The input-output analysis is based in the interdependence of productive sectors. It is particularly suitable for the already described purpose, in order to determine which is the incidence on all the productive sectors of the economy that suffer changes as the described in this section of the document. Assume that Catalan exports decrease because of a boycott: It is clear there would be a direct damage to exporters, that would depend on the volume that each sector would export to Spain. But the damaging doesn't finish here because it would be necessary to assume the losses of those sectors that, without exporting directly to Spain, supply inputs to the export sectors. And also, the losses of those sectors supplying the exporters suppliers. And we could go on ad finitum. Indeed, the main advantage of using the input-output analysis is that it allows a simple calculation of these direct and indirect effects. On the other hand, it would be also necessary to consider the potential benefits that some sectors get from the partial replacing of Spanish importers and, as it was previously explained, the replacing of the suppliers and the suppliers of their suppliers, etc. Obviously, the effects of import substitution would be on the opposite sign to the reduction of exports.

A clear difficulty when presenting the results of this analysis is the matter of determine which would be the effective range of the boycott, or, in other words, which would be the real decrease of exports to the Spanish market. In Guinjoan and Cuadras Morató (2011) are described the available traces that could be used to determine that variable, taking into account existing public opinion studies (Chapter 11), comparative international experiences (Chapter 9) or the

(19) A deeper description of the calculation can be found in Cuadras Morató and Guinjoan (2012)

analysis on the 2005 circumstances (Chapter 10), but without the ability to establish unequivocally the real range of the boycott. This problem makes it convenient to present the results of simulation in the most agnostic way. So, the Table #4 presents the reduction of the Catalan GDP when assuming all the possible scenario of decreasing the exports of Catalan products to the Spanish market, considering the following cases: a) The boycott would affect more the final consumer goods than the companies goods (intermediate or investment goods)²⁰, and b) The social reaction in both sides would be the same so, the Catalan boycott to Spanish products would be as big as the Spanish to Catalan products.

Table #4. Reduction on Catalan GDP as a result of a commercial boycott. (in %)

Source: Guinjoan and Cuadras Morató (2011)

GDP (%)	Impact of the boycott on sales to final consumers (%)										
	Impacte del boicot sobre les vendes als consumidors finals (%)										
	0	10	20	30	40	50	60	70	80	90	100
0	0,0	-0,4	-0,9	-1,3	-1,7	-2,2	-2,6	-3,0	-3,5	-3,9	-4,3
10		-1,6	-2,0	-2,4	-2,9	-3,3	-3,8	-4,2	-4,6	-5,1	-5,5
20			-3,2	-3,6	-4,0	-4,5	-4,9	-5,4	-5,8	-6,3	-6,7
30				-4,8	-5,2	-5,7	-6,1	-6,6	-7,0	-7,5	-7,9
40					-6,4	-6,9	-7,3	-7,8	-8,2	-8,7	-9,1
50						-8,1	-8,5	-9,0	-9,4	-9,9	-10,3
60							-9,8	-10,2	-10,7	-11,1	-11,6
70								-11,5	-11,9	-12,4	-12,9
80									-13,2	-13,7	-14,2
90										-15,0	-15,5
100											-16,8

How do we have to read Table #4. An example could clarify that. If we assume that a commercial boycott cause the decreasing of the 40% of sales to final products to the Spanish market and the 20% of sales to companies, the decreasing on the Catalan GDP would be of 4%. A decrease in GDP of magnitude of Catalan fiscal deficit in the last twenty-five years (8%) only occur with a reduction of 50% of all exports from Catalonia to Spain, or, alternatively with the reduction of 75% in the sale of final products and of 40% of company products. To determine which would be the real range of a boycott caused by political reasons would be a highly speculative exercise and, therefore, questionable, although when trying to analyze all the traces aforementioned. The advantage of showing the results of all the possible scenarios is that allows everybody to choose the most plausible values on the economic impact of a trade boycott due to the secession of Catalonia—whereas, obviously, this doesn't exempt anybody to clear justify the election – Yet, it is important to say that a reduction in exports to the magnitude necessary to offset the fiscal deficit suffered by

(20) A more detailed explanation of this case can be found in Guinjoan and Cuadras Morató (2011)

Catalonia today is a scene so dramatic that in the present circumstances can be considered unlikely.

The possible duration of a boycott of this nature is another important consideration while assessing the impact. Most studies on international trade boycotts reflect the fact that these are not lasting too long and lose effectiveness quickly, probably because of the tiredness of those who commit boycott as well as the defensive actions of the companies concerned²¹. To specify the impact of the boycott on the Catalan economy, must be necessary to determine which would be the exact duration of it and its range - initially, everything tends to think of a decreasing - during the different stages. Nevertheless, this task would get into the slippery slope of the speculation.

It is obvious that the effects of a boycott wouldn't be of the same magnitude for all sectors of the Catalan economy. The level of disaggregation of statistical information contained in the Catalan input-output table for 2005 (up to 65 branches of activity) establishes which consequences of the boycott at the sectoral level would be²². In this document we don't get into details of these calculations, but worth mentioning that the most damaged sectors would be, obviously, those with a major percentage of sales to the Spanish market. Also, the sectors who are trading with the export sectors would receive negative effects but much smaller; however, some activities would rest totally a part, as for instance the most part of services (activities that employ many thousands of people in Catalonia), because of the fact that their clients are, mostly, local consumers.

Finally we must conclude this part of the report with reference to tourism, a major economic activity in Catalonia that has a very specific treatment in the input-output table of the Catalan economy which makes it necessary to add the clarification. Exports of tourism are included in the valuation of consumption of non-residents within the country and are not included in the specific export branches. This could lead to think that the exercise described above underestimates the possible final effects of a boycott to Catalan companies in the Spanish market, in this case

(21) Another characteristic shown in the boycott studies is that these boycotts rarely affect equally all the products from a determined country (more details in Guinjoan and Cuadras Morató, 2011, chapter 9). In fact, the tendency is to focus on particular products or symbolic representative of the country in question (for instance, the main victim of the boycott to French products always tends to be the wine of the country)

(22) The interested reader can consult the appendix on Cuadras Morató i Guinjoan (2012), that includes the results of the simulation for the 65 activity branches of the input-output table.

because it does not include the possible reduction in the number of Spanish tourists in Catalonia. Nevertheless, given the assumptions made about the symmetry of the boycott and the effects of partial substitution of imports, is little probable that the omission of the exports of tourism would enter a large downward in the estimates presented on the effects of the boycott, because all the estimates on the trade relation between Catalonia and Spain, when it comes to exchanges of touristic services, show that this is clearly a loss for the Catalan economy²³.

Some trade consequences from previous secessionist experiences in Europe.

The last part of this section briefly analyzes the development of foreign trade in the moments immediately following the secession of some European countries that became independent in the early nineties of the last century. The countries analyzed are: Czech Republic, Slovakia, Slovenia and the Baltic states (Estonia, Latvia and Lithuania). Needless to say that, when to achieve the independence, these countries were in political and economic situations that have nothing to do with the situation existing in Catalonia today. Although the analysis of this secessionist processes can be useful because they are the most recent and closest episodes to what could be a declaration of independence in Catalonia, at the same time we have to be very aware that it is difficult to draw conclusions that can be the case of Catalan directly. The main objective is to analyze the development of the trade of the countries with the territory from which have previously separated, and the rest of the world.

Czechoslovakia split into two different States, the Czech Republic and Slovakia, in the 1st of January 1993. Although it is not easy to determine the volume of the trade relation previous to the split²⁴, it seems that in 1991 the Czech Republic represented approximately the 50% of the Slovakian exports, while Slovakia represented a third of the Czech exports. During the 1991-1993 period, the trade relations in both directions were reduced slightly above the 25%²⁵, but recovered with posterity, so that between 1993 and 1996 Czech exports to Slovakia increased by 9%, and Slovakian to the Czech Republic by 18%²⁶. The most spectacular

(23) These estimations are based on the data published by Idescat as well as by C-interreg.

(24) Details on the trade relations previous to the split can be found in Fídmuc and Hórvath (1998)

(25) Should be noted that one of the consequences of the split was the dissolution of the monetarian union of the two countries. There are studies that show that countries with the same currency maintain a more stronger trade relation.

(26) All the data after 1993 are from the International Monetary

detail of the post independence period was, the explosion of the exports to world markets of the two new countries in a period of just three years (1993-1996), increasing the sales abroad a 51% (Czech Republic), and a 62% (Slovakia), with a remarkably significant growth of the exports to the EU members, where above the rest, emphasizes Germany.

On the 25th of June 1991 Slovenia declared its independence. It is hard to precise the trade consequences of this event, because is difficult to find data on the previous period. Some estimates show that the impact of the process for the Slovenian exports to the Yugoslavian market was very important²⁷. It is important to remember that, unlike the Czechoslovakia case, the independence of Slovenia was accompanied by a war (the "Ten-day war"). In any case, in the immediately after period (1993-1996) the Slovenian exports to the rest of the countries that used to be part of Yugoslavia, increased a 44%, a higher rate than the growth of total exports (37%), mostly sent to EU countries²⁸.

Like in the previous cases it is difficult to make a comparative of the trade of the Balkan countries before and after the declaration of independence. The economic system of the former Soviet Union makes it even more difficult. Russia remained a business partner of considerable importance for the three Baltic countries in the years immediately after independence, despite the financial crisis of 1998 represented a very significant slowdown in exports to the Russian market. In the Lithuanian case, the exports to Russia increased a 65% during the 1994-1997 period (the total exports grew at a rate of 90%) and the Russian market represented, on average, a 24% of the total. In Estonia the total exports grew a 70% during the same period. The importance of the Russian market decreased considerably (the growth of exports to Russia during the period were well below average, 19%), in favor of the Swedish market (165%), and Finland and other Baltic countries (80%). Finally, in the case of Latvia, Russia was the destination of 21% of Latvian exports in 1997. The fact that the growth of total exports during the period 1994-1997 (75%) clearly exceeded exports to the Russian market (31%) shows the weight loss of Russia in favor of EU countries, especially Germany and UK, in this case²⁹.

Found (IMF) reports on both economies.

(27) According to the data shown in Damijan (2004), in 1992 the value of the Slovenian exports to Yugoslavia was a 22% of the value they used to have in 1990.

(28) Data from the IMF reports on the Slovenian economy.

(29) Data on Lithuanian and Estonian economies are from the IMF reports about them. Data on Estonian economy are from Spruds (2001)

5. Some preliminary reflections on the impact of Independence on financial flows of the Catalan economy to the outside.

A part from the commercial flows (goods and services exportation and importation) and fiscal (tax payment and reception of services and public investment), the Catalan also maintain financial relationships with economies from the rest of the world. This simply means that Catalan savers keep a part of their savings abroad, as well as Catalan companies fund some of their investments with savings from outside Catalonia. The financial balance is roughly the counterpart of the balance on current account, basically reflects whether a country has the capacity (capital outflows exceed inputs) or needs (upside down) financing. In the first case the country has a financial deficit (surplus on current account balance) and lends money to other countries, while in the second case where the country has a surplus on the financial balance or a deficit on current account balance, the country gets into debt respect the rest of the world.

The obvious questions to be done in this area is what is the nature of the Catalan financial relationships with the rest of the world, including Spain, and how this would be affected in a hypothetical independence. Unfortunately, about this important subject is almost impossible to say anything due to the lack of information. There are no recent studies on the Catalan financial relationships with the rest of the world that even approach the first question³⁰.

Nowadays in Catalonia we don't even know as fundamental data from the macroeconomic point of view, as the sign and the financial balance of the country, that is, if the country has, overall, capacity or needing financing. It follows from the foregoing that the answers given to the second question can not go further from the more or less informed speculation. Anyway, for sure, the Catalan economy to get financed would absolutely depend on the confidence that would deserve the solvency of their government and their banks - and consequently, the rating given by the rating agencies -. Due to this, it would be essential to ensure good

(30) The last approach refers to 1993 and 1994 (Generalitat de Catalunya, 1997)

economic growth prospects for the country and the highest standards in its economic policy and the management, and in the regulation of its financial institutions.

In the section on financial relations between Catalonia and the rest of the world, we must pay special attention to the category of direct investment of the companies, since this kind of financial flows have a direct relation with the production, income generation, employment and welfare. The lack of information gives the access only to the flows of direct investment from and to the rest of the world. About the flows with Spain, that probably can only be approximated by some indirect estimation procedure, we have no information. This last question is rather unfortunate, as the relocation of production plants of Catalonia belonging to Spanish companies is a considerable risk that could result from the secession process³¹. The relocation of distribution plant is a decision that involves costs that often companies do not want to assume, but everyone could imagine a situation where the production plants in Catalonia receive progressively less workload and less investments in favor of other production centers located throughout Spain, whether for purely business reasons or for political or ideological influences.

A question to consider is how the independence would affect to the Catalan financial system. This is a tricky question from the moment of defining what is the Catalan financial system and which institutions comprises. If we understand that the Catalan financial system is the group of companies and financial institutions involved in Catalonia – regardless of the property of their capital or the location of their headquarters-, the conclusion must be that the degree of involvement would largely correlated to what could happen in the economy of the country. If we assume, for example, that independence would affect in excess the degree of the economic activity in Catalonia, nor should drastically modify the activity of financial inter-mediation.

However, if the financial sector is defined as the group of Catalan financial companies that have their headquarters in Catalonia and are identified by consumers as Catalan companies, then, considering that much of the business of these companies is carried in the Spanish market, certainly could be affected by actions of retaliatory or commercial boycott (deposit withdrawals, for example) that could harm them significantly and forcing them to take defensive measures.

(31) It is necessary to assume that an Independent Catalonia would keep or even increase its ability to attract foreign investments. Otherwise, the process of independence would imply additional risks to be considered.

Conclusions

At this historic moment as the present where there seems to be a growing support for the idea of the independence of Catalonia, there are at least two factors which justify the importance of making rigorous analyzes about the possible consequences. On the one hand, the road to independence is part of a process filled with all sorts of uncertainties about the reactions that may occur within the country, Spain, and the rest of the world. A first contribution of the studies on the independence should be to give the more precise answers to the questions that, legitimately, society is formulating in a such important process. On the other hand, this is an area that is too often dominated by passionate debate and identity confrontation, before a rational analysis on the pros and cons of the separatist project. However, when the Catalan society think seriously about the project of secession, will ask for a more intense research and knowledge that will allow them to calculate objective and systematic advantages and disadvantages of an own State.

The independence of Catalonia would have an obvious positive effect, arose from the elimination of the fiscal deficit faced by the country. This will directly mean more additional resources available to the Catalan people. At the same time, nevertheless, it is true that Catalan companies rely heavily on exports to the Spanish market, which could be affected, for example, for the effect of a trade boycott by consumers. The results outlined in this report show that the reduction in exports to Spain should be of a considerable magnitude to override the positive effect that would occur in the area of taxation. In addition, considering the relationship between some of the main factors of economic growth of a country and the level of public expenses – development and maintenance of infrastructures, school and university systems or research programs and business innovation are three good examples – is not exaggerated to say that the independence and the elimination of the fiscal deficit would increase not only the Catalan disposable income in the short term, but also its growth prospects in the medium term.

A clear example of this type of improvement is what could happen with the situation of the country infrastructures – here you can include ports, airports, railways, roads, etc. -. The current situation, that negatively affects the competitiveness of enterprises, is characterized both by the lack of investment – examples as bloody as the nonexistent Mediterranean railway corridor or the rail connections claimed in Barcelona's harbor – as a centralized management and made with little economic rationality criteria by the Spanish



authorities. From this point of view, the management of the Catalan government policy infrastructure, with more resources – and hopefully with an appropriate criteria to the needs of the productive sector of the country – would increase the potential growth of the Catalan economy.

As a general conclusion, it can be stated that, according to the arguments exposed in this report, although the independence of Catalonia is a strictly political project which depends on will of the citizens, it seems difficult to pronounce against it with arguments only based on its infeasibility from the economic point of view.

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